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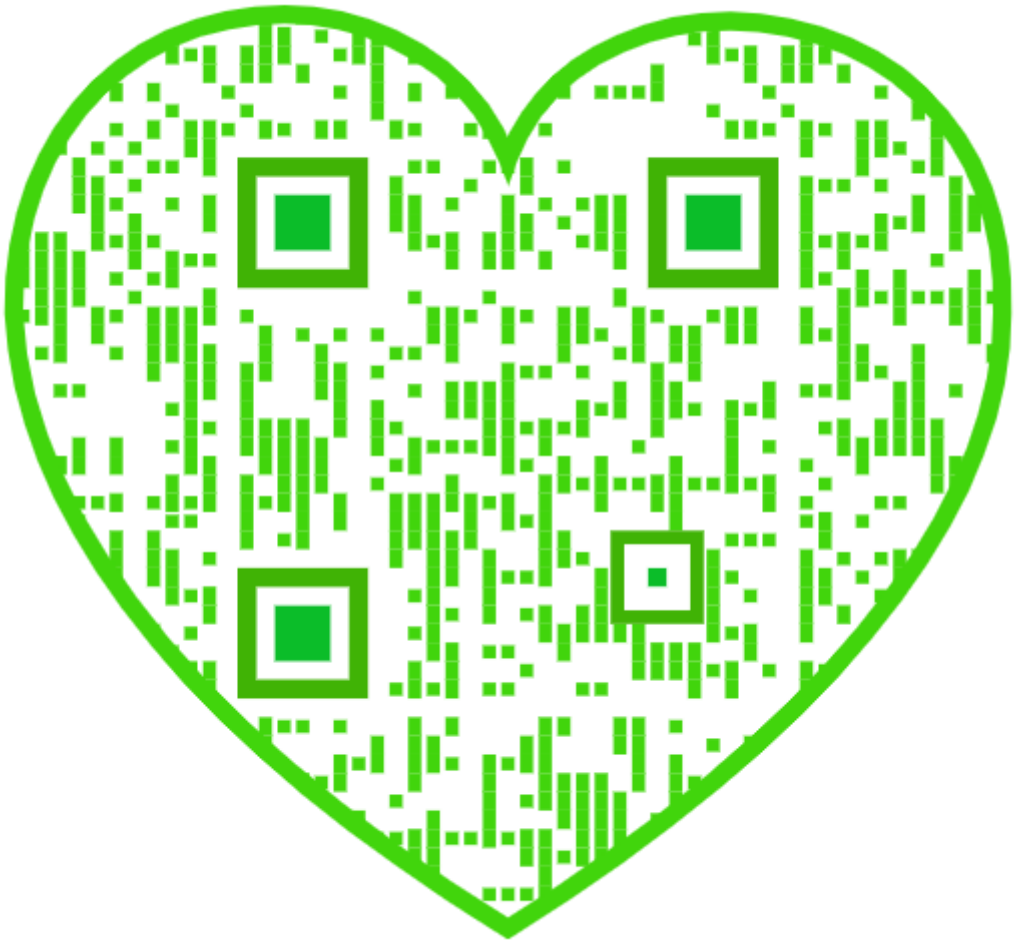

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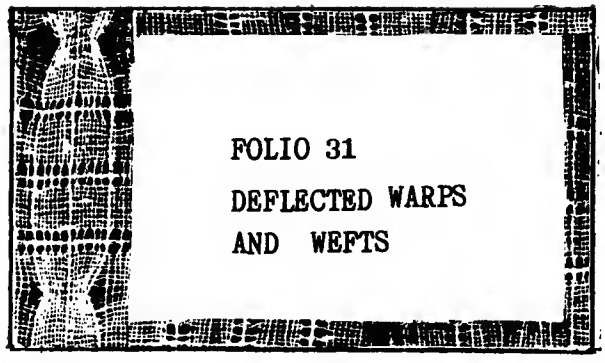

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DEFLECTED WARPS AND WEFTS

A Creative Crafts Folio

The term "deflected" refers to the transferring of a warp or weft thread from its regular expected vertical or horizontal position in a traditional texture, to a point out of line, and not along a true vertical or horizontal direction. For design purposes one usually makes use of the deflected threads to form a cross, a loop, a diagonal line, a wavey contour, etc.

The method is used a great deal for modern textures. Examples of deflected warps are shown in Figure 2. Directions in the diagram of Figure 1. Examples of deflected wefts are shown in Figure 3. There are many lovely textures possible for a weaver to create because of the liberty given one in changing the usual courses of the warps and wefts.

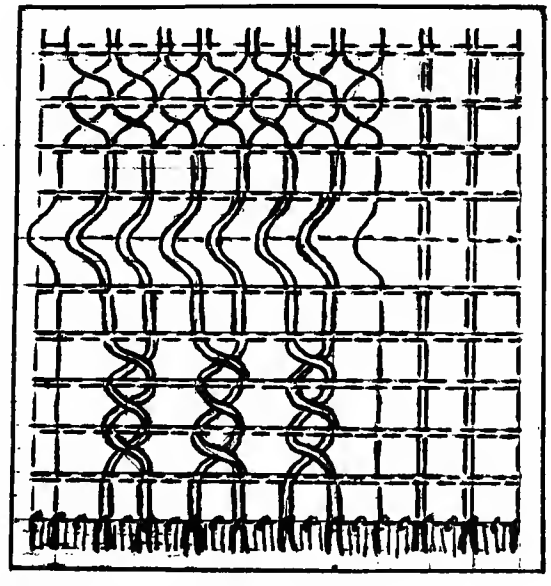

Figure 1. Deflected Warps

DEFLECTED WARPS

In this technique a regular background warp is threaded and woven as plain weave, while additional warps of a heavier texture, and usually a contrasting color, are added at intervals for an overlay of the deflected threads. Directions for the two mats at the top of Figure 2 are below.

The threading is given in diagram at base of page. The treadling is for a Jack loom. For a counterbalanced loom see the tie-up adjacent to the Jack tie-up, and in treadling a counterbalanced loom, always level the three upper harnesses when one is treadled, and be sure always to see that the harnesses are level after treadling, by placing palm of hand across top of upper harnesses.

WARP PLAN:

Background Warp: Natural Cotton 16-4; Merc. 10-3; or linen 20-2
Deflected Warp: Dark Perle 3 or a textured thread.
Weft: Same a background warp.
Threads per inch: 18
Width : 13½ inches.
Total Threads: 242 natural and 27 textured threads.

Note: In deflected warps and wefts results depend on contrast of backgrounds and added warps or wefts. Use dark against natural as shown here, or pure white on natural.

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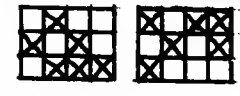
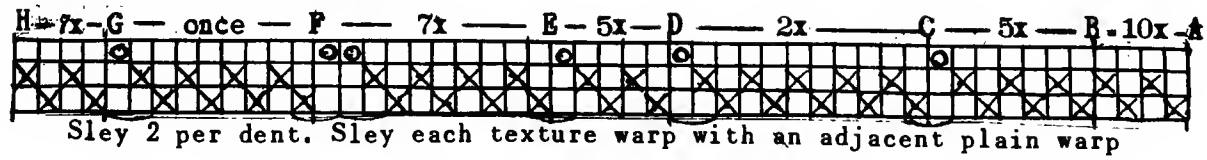
DEFLECTED WARPS

Tie-up CB Jack



1 2 3 4 1 2 3 4

DRAFT- DEFLECTED WARPS



Sley 2 per dent. Sley each texture warp with an adjacent plain warp

Draft for Figure 1

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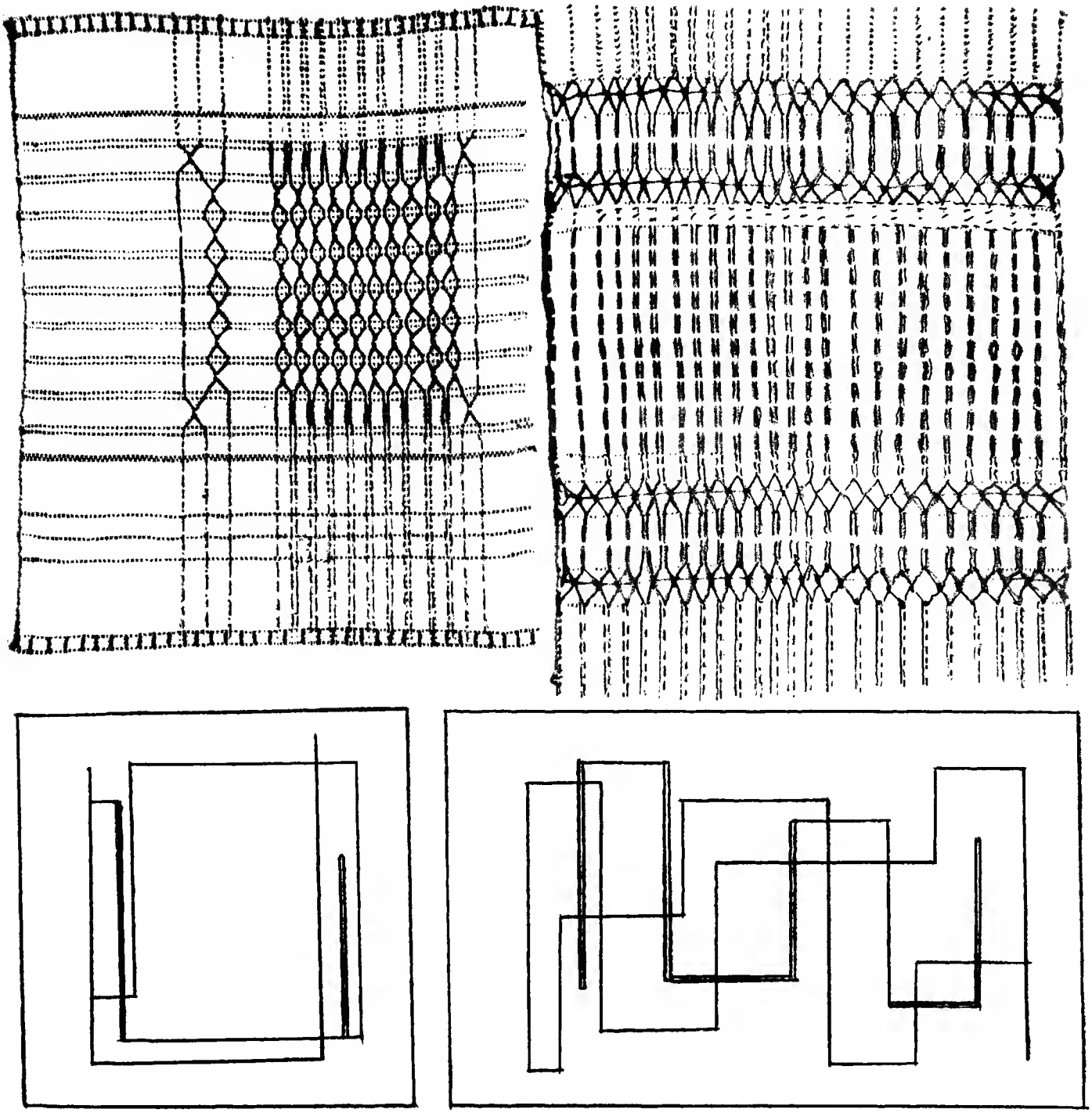


Figure 2. Above, mats of deflected warp threads designed and woven by the author. Below, mat and napkin in which the design threads are laid in weft-wise, and travel warp-wise as the weaver desires.

THREADING PLAN:

Follow draft, Figure 1. When directions call for an added texture thread, place it on H.3 Thread as follows:

	Bkgr.	Texture
A-B, 4 natural, (10 times)	40	--
B-C, 6 nat., 1 tex. (5x)	30	5
C-D, 10 nat. 1 tex. (2x)	20	2
D-E, 4 nat. 1 tex. (5x)	20	5
E-F, 8 nat. 2 tex. (7x)	56	14
F-G, 8 nat. 1 tex. once	8	1
G-H, 4 nat. (17x) - - -	68	--
Total natural-	242	Tex. 27

Sley 2 per dent. Sley each heavy warp in circle of Fig.1 through same dent as an adjacent plain warp, see brackets in draft.

WEAVING PLAN:

1.1. Leave fringe or hem. Weave 4 rows natural for finish at ends; then overcat the with white thread like heavy texture, on an open shed, overcasting 4 warps counted off on upper shed at a time, just to count.
2. Weave 2 in. white: Repeat Tr.1 then Tr.2, namely Hs.1-3 together, then 2 alone.
3. Weave 1 row black, Tr.1, then 6 rows of white alternating Tr.2 then Tr.1. Repeat all 3 times. Add 1 row black, on Tr.2.
4. Weave 2 in. white on Tr.3 then Tr.2.
5. Weave 2 rows black Tr.1 then Tr.2. Repeat directions from 1 to 5 as desired.
6. Weave ½" white, Tr.1 then Tr.2. Finish on Tr.2.
*7. Weave 1 row black, Tr.1; 1 row white, on Tr.2; 1 row black, Tr.1. You are ready at this point for deflected warp design.
8. Weave Trs. 4; 1; 4; 1; 4; 1. This leaves black warps unwoven and showing above the background texture. Now twist adjacent warps together with a stick or fingers, as shown teisted, see pairs of Fig.1. Let the tabby come out directly below twist, pass shuttle through twist, then enter at same place again and carry only to next warps ready for another twist. This will hold center of cross to fabric and makes a functional cloth.

After this row of twisted yarns, weave again Trs.4; 1; 4; 1; 4; 1. Black warps are left up. Weave Tr.2 natural alone. This catches black warps as it pulls them down and finishes the cross.

Repeat from asterisk, *, No.7 for each twisting of the warps. Apply the system as desired, in various proportions of the warp spacings.

DEFLECTED WEFTS

In a deflected weft texture, certain wefts, instead of lying horizontally, are taken off their course by the treadling, and appear in the form of wavey lines at angles to the warp, and generally held in their unusual position by certain of the warp threads. We call these wefts either "deflected" or "distorted" wefts. The technique is also called by a French word, "Cannele". The warps that catch and hold the deflected wefts are also called "Cannele Montant", and the deflected weft threads themselves are called in French "Cannele Travers".

A typical threading and its appearance after being woven is given in Figure 3. It is a fascinating technique, suggesting to the weaver endless variations, both in method, and in materials, and it is found useful in weaving upholstery and drapery textures,- pillows, mats, bags and purses, screens and hangings, as well as fancy dress materials, stoles, baby blankets and evening jackets.

ANALYSIS OF THE TECHNIQUE

The method of weaving is really very simple when you know the principle. Harnesses 1 and 2 are threaded as plain weave, and it is these that give the background tabby in the entire texture. At the intervals where one wishes the weft threads to be caught up one introduces a pair of warps to bind in the deflected wefts. These are threaded on H.3 or H.4, and in the effect shown here, in Figure 3, the pairs alternate, first a pair on H.3, then a pair on H.4, etc.

Deflected wefts cause an entirely different effect from deflected warps although the threading is done by much the same principle of planning one or more warps that can be held out above the plain weave underneath, to be manipulated or used for special purposes.

We therefor get a zig-zag alternation, as shown in Figure 3,-and the two alternating blocks or nodes are called by the French term, "Cannele Alterne'.

MATERIALS

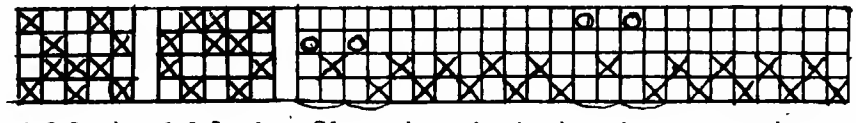
In any deflected weft texture one can use three different kinds of thread: first the background tabby which must be finer than the overlay; second, the accenting or textural warp threads to form the pairs of the warps on H.3 and H.4, that will tie down

the deflected wefts; and third, the deflected wefts themselves. The plain weave tabby can be like the background warp, or it can be a fourth thread or color, and can cover the warp entirely for color effects. The pattern warps on Hs.3 and 4 may be heavier than the warps on Hs.1 and 2, and if they are of a different color, this adds to the effect. For the deflected wefts, use a yarn that will show up well both in color and texture against the background, such as a glossy thread, a fine ribbon, heavy perle or novelty yarn, etc. There is an endless supply of such threads to choose from in our thread supply houses, and they are glad to send samples.

WARP PLANS: Here are a few suggestions for textures.

ARTICLE	BACKGROUND WARP	SETTING per in.	ACCENT WARPS	TABBY	DEFLECTED WEFTS
Upholstery	Cotton 8-4; 10-3	15 or 16	Heavier than warp, Perle 3	Like Warp	3-2; Chenille or 4-strand.
Drapery	Cotton 10-2; 16-3	20; 24	A bit heavier than warp, 10-3	"	Perle 5; Floss
Stoles or Blanket	Sport Yarn	15	Lustre yarn	"	Ribbon; Novelty
Fine Dress Material	Weavewool; 2-ply	20	Sport yarn	"	Lustre yarn

Tie-up CB Jack DEFLECTED WEFTS- Draft and Tie-ups



Trs. 1 2 3 a b 1 2 3 a b Sley threads in brackets together.

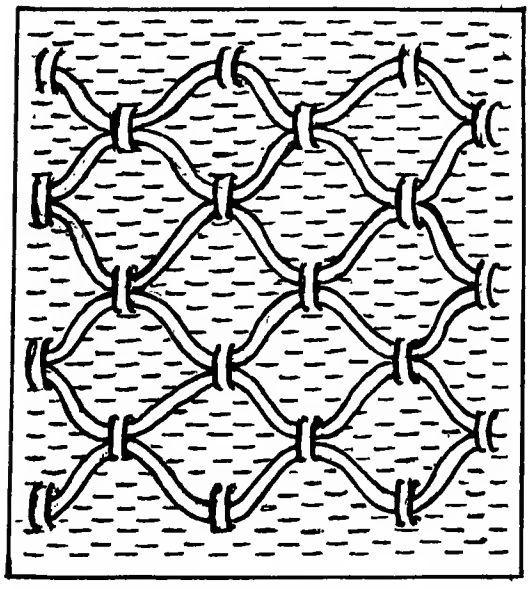


Figure 3. Deflected Wefts

In deflected wefts the warps act as loops to catch and hold heavy wefts out of place, and the wefts form an overlay of design. In deflected warps the wefts remain fairly constant and horizontal, holding down the deflected loops where desired. Compare the two techniques by referring to Figures 1 & 3.

The threading is also somewhat similar to the Summer and Winter Weave where the pattern harnesses are H.3 and H.4. In Summer and Winter these pattern harnesses occur on every other note, and produce an alternate plain weave against the regular background tabby which is on Hs.1 and 2, whereas in a deflected weft threading they occur only at intervals. When they are treadled, therefor, as Hs. 3 & 4 together, a pair of warps is left outstanding, and can be treated as a loop to catch the heavy design threads at this point.

However, you will note that the weaving is much the same as in Summer and Winter, with each of the tabby harnesses used with the design threads,- namely: Hs.1 & 3; 2 & 3; 1 & 4; 2 & 4, etc. On a Jack loom, if one weave Hs.1-3, 2-3, etc., the alternate warps on H.4 fall to the lower shed, below the cloth; and only the heavy pairs on H.3 rise to catch the wefts. When one weaves the Hs.1-4 and Hs.2-4, the heavy warps on H.3 are held below the surface, and only the warps on H.4 catch the deflected wefts. We therefor get a zig-zag alternation, as shown in Figure 3, and this is called by the French word, "Cannele' Alterne'."

THREADING PLAN

Harnesses 1 and 2 are threaded for plain weave and marked (x). Hs.3 and 4 are threaded for the accenting warps to be used for holding deflected wefts, and are marked (@. Keep repeating pattern as given. Finish with a section of plain weave on Hs.1 & 2.

Sley plain weave warps 2 per dent. Be sure to always sley an accent warp with an adjacent plain weave warp, see brackets,- Figure 3. For closer sleying, put 2 plain weave warps plus an accent warp through the same dent.

WEAVING PLAN:

1st Block: Plain Weave, weave with the regular tabby thread:
Hs. 1-3; 2-3 (Trs. a then 1) Repeat as desired. End with Hs.1-3 (Tr.a)

Accenting Row: Weave with deflected weft thread: Hs.3-4 (Tr.3)

2nd Block: Plain Weave, regular tabby:
Hs.2-4; 1-4. (Trs.b then 2) Repeat as desired. End with Hs.2-4 (Tr.b)

Accenting Row: deflected weft thread:
Hs. 3-4 (Tr.3)

Repeat 1st and 2nd blocks as desired. End with plain weave of next block after the last one used.

The stitch is fun; the results rewarding. One does not need to equalize the blocks, but can repeat more or less of the plain weave treadling. One can also interrupt the alternation of the blocks by repeating Bl. 1 or Bl.2 more times, which results in horizontal lines instead of wavey ones. One can also weave as follows:

Tr. a; 1; b; 2; repeat as desired. Add Tr.3 with texture thread. Then Tr. b; 2; a; 1; repeat. Add Tr.3 texture.

Or Tr. a; 1; a; b; 2; b; Add Tr.3, Texture.
Tr. 2; b; 2; a; 1; a; " " "

One can also add different texture threads, one kind on H.3, another on H.4, etc.